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DESCRIPTION OF A NEW *LUEHDORFIA* FROM JAPAN.

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(PLATE I., FIG. 1.)

*LUEHDORFIA* JAPONICA, nov. sp.

Expanse, 70 mm. Primaries pale yellow, black at base and externa margin, with three transverse oblique black bands on the disc, and one parallel with outer margin, with which the third oblique band is united below the middle; a black dash from the costa between first and second and second and third oblique bands. Secondaries pale yellow, with a broad black band along the inner margin, and another, oblique and interrupted, on the disc beyond which is a black costal dash: the outer third black, enclosing five blue spots, and edged externally with some orange patches; a conspicuous crimson blotch above anal angle. Fringes chequered black and white. Under surface as above, but the crimson colour assumes a band-like form, traversing the wing parallel with outer margin from anal angle to second subcostal nervule; the orange on outer margin also forms a complete band.

This species was erroneously referred to as *L. puziloi* by Mr. Pryer in his catalogue of 'Lepidoptera of Japan,' and subsequently by myself in my paper on the "Lepidoptera of Japan and Corea," P. Z. S., 1887, when I did not possess specimens of the species. I at first considered it to be merely a local form of *L. puziloi*, but the following characters are amply sufficient to separate it from that species. In the first place the "pouch" of female of *L. japonica* is without a keel, and is black instead of light chestnut; this, without reference to other points of difference, at once distinguishes it; but it is further much larger in size, the ground colour is darker, and the anal blotch is broader and of a bright crimson.

With regard to the pouch of *L. puziloi*, M. Oberthür is of opinion that this is probably not developed until pairing has

taken place. If this is so, it may account for some of the females, both of *puziloi* and *japonica*, being without this appendage.

Recorded from Yesso and the Kurile Islands. There were several specimens in Pryer's collection, which has lately come into my possession. These were taken at Gifu in April, and are probably the examples referred to (E. M. M. xxiv. 66). I also have one example which was taken by my native collector at Bungo, Isle of Kiushiu.

*Luehdorfia puziloi* has been recorded from Eastern Siberia, Vladivostok, and Isle of Askold.

#### EXPLANATION OF PLATE I.

*Luehdorfia japonica*, Leech.—Fig. 1, ♀. Fig. 1*a*, ♀, under surface; fig. 1*b*, ♀, pouch, full view; fig. 1*c*, ♀, pouch, side view.

*Luehdorfia puziloi*, Erschoff.—Fig. 2, ♀. Fig. 2*a*, ♀, under surface; fig. 2*b*, ♀, pouch, full view; fig. 2*c*, ♀, pouch, side view.

### ON THE VARIATION OF INSECTS.

By T. D. A. COCKERELL.

(Continued from p. 6.)

#### h. *The so-called hermaphrodites.*

*Colias edusa*, Entom. xi. 101. *Lycana icarus*, Entom. xi. 101, 209; xx. 302. *L. ægon*, Entom. xi. 101. *Clostera curtula*, Entom. xi. 103. *Epione vespertaria*, Entom. xi. 104. *Satyrus semcle*, Newman, Brit. Butt. 89. *Odonestis potatoria*, Entom. xvi. 188. *Lasiocampa trifolii*, Ent. Mo. Mag. 1882, iii. *Anthocharis cardamines*, Entom. xii. 181 (♂).—In these examples part of the insect has the superficial characters of the male, and part of the female, in a similar manner to the forms quoted under "g." That they are not true hermaphrodites is clear enough, and it is highly probable from analogy that the primary sexual organs are aborted, though I am not at present aware of any positive evidence that this is the case. Having in view the fact that in cases of female dimorphism specimens combining the two forms may occur, and further, that the secondary sexual characters of female Lepidoptera have probably arisen in dimorphisms (see under "f"), it seems possible that these examples are cases of partial reversion, tokens that the female was once dimorphic.

#### i. *One sex assuming the superficial characters of the other.*

*Biston hirtaria*, ♂, with ♀ colouring, Entom. xi. 102. *Epione vespertaria*, ♂, with ♀ colouring, Entom. xi. 170, and coloured fig. *Colias edusa pseudomas*, ♀ without yellow spots on black marginal bands, Entom. xi. *Epinephele ianira pseudomas*, Newman, Brit. Butt. 92. *Aphycus ceroplastis pseudomas*,